



SYSTEM AND METHOD OF PRODUCING METALS AND ALLOYS**Patent number:** WO2004033736**Publication date:** 2004-04-22**Inventor:** ANDERSON RICHARD (US); ARMSTRONG DONN (US); JACOBSEN LANCE (US)**Applicant:** INTERNAT TITANIUM POWDER LLC (US); ANDERSON RICHARD (US); ARMSTRONG DONN (US); JACOBSEN LANCE (US)**Classification:****- international:** B22F9/28; C22B34/12; B22F9/16; C22B34/00; (IPC1-7): C22B34/12; B22F9/28; C22C1/04**- european:** B22F9/28; C22B34/12H2; C22B34/12H2B; C22C1/00**Application number:** WO2003US27651 20030903**Priority number(s):** US20020416630P 20021007**Also published as:** AU2003263082 (A1)**Cited documents:** US5958106 US2647826 GB722184**Report a data error here****Abstract of WO2004033736**

A system and method of producing an elemental material or an alloy from a halide of the elemental material or halide mixtures. The vapor halide of an elemental material or halide mixtures are introduced into a liquid phase of a reducing metal of an alkali metal or alkaline earth metal or mixtures thereof present in excess of the amount needed to reduce the halide vapor to the elemental material or alloy resulting in an exothermic reaction between the vapor halide and the liquid reducing metal. Particulates of the elemental material or alloy and particulates of the halide salt of the reducing metal are produced along with sufficient heat to vaporize substantially all the excess reducing metal. Thereafter, the vapor of the reducing metal is separated from the particulates of the elemental material or alloy and the particulates of the halide salt of the reducing metal before the particulate reaction products are separated from each other.

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